EXPRESS MAIL LABEL NO:
EV 252 520 792 US

OIPE JC130 APR 0 6 2005 PATENT & TRADEMARK OFFICE

POWER GENERATION SYSTEM

BACKGROUND

Substitute specification approved for entry w 4/15/05

1. Field of Invention

[0001] The present invention relates to a wind power system for generating electrical power.

2. Related Art

[0002] A typical wind power system includes two or three blades which rotate about an axis. The blades are provided perpendicular to the direction of wind flow, with suitable pitch so that the wind causes the blades to rotate about the axis. The rotational motion of the blades is used to drive a gear box that drives a generator, effectively converting the kinetic energy of the wind to electrical energy.

[0003] Unfortunately, typical wind power systems require large propeller-like blades, which can be inefficient, to the point of being useless. Large blades are generally required to ensure that the blades can be rotated with sufficient speed to overcome the torque inherent in the generator. Inefficiencies are created due to considerable friction in the gear box, which adds to the torque. Thus, during instances of low or moderate wind flow, the wind strength may not be able to overcome the torque.

[0004] The large blades usually cover an expansive area. Thus, the blades within this area can be subject to winds traveling in different directions. For example, wind traveling near one end of the expansive blades can be heading north while wind at the opposite end of the expansive blades can be heading south. The net effect of the different wind directions traveling across different parts of the blades can be to slow or even stop the blades causing the power output to approach zero.

[0005] Each of these factors contributes to the cost of the wind power system, operations, and maintenance, which add considerably to the cost of the power generated.